

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	10356	HYDROGENATION.CLM.	US-PGPU B; USPAT	OR	OFF	2006/08/28 13:33
L2	11912	NITRILE.CLM.	US-PGPU B; USPAT	OR	OFF	2006/08/28 13:33
L3	401	L1 AND L2	US-PGPU B; USPAT	OR	OFF	2006/08/28 13:33
L4	85132	NITRILE OR DINITRILE	US-PGPU B; USPAT	OR	ON	2006/08/28 13:34
L5	389737	AMINE OR DIAMINE	US-PGPU B; USPAT	OR	ON	2006/08/28 13:34
L6	1033	L1 AND L4 AND L5	US-PGPU B; USPAT	OR	ON	2006/08/28 13:34
L7	29695	NI.CLM.	US-PGPU B; USPAT	OR	ON	2006/08/28 13:34
L8	57	L7 AND L6	US-PGPU B; USPAT	OR	ON	2006/08/28 13:34
L9	210125	PALLADIUM OR PD	US-PGPU B; USPAT	OR	ON	2006/08/28 13:35
L10	47	L9 AND L8	US-PGPU B; USPAT	OR	ON	2006/08/28 13:35
L11	377839	AROMATIC	US-PGPU B; USPAT	OR	ON	2006/08/28 13:35
L12	98417	AROMATIC.CLM.	US-PGPU B; USPAT	OR	ON	2006/08/28 13:36

EAST Search History

L13	12	L12 AND L10	US-PGPU B; USPAT	OR	ON	2006/08/28 13:36
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CAS ONLINE PRINTOUT

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(FILE 'HOME' ENTERED AT 07:16:16 ON 28 AUG 2006)

FILE 'REGISTRY' ENTERED AT 07:16:29 ON 28 AUG 2006

FILE 'CASREACT' ENTERED AT 07:16:36 ON 28 AUG 2006

L1 STRUCTURE UPLOADED
L2 0 S L1
L3 5 S L1 FUL

FILE 'REGISTRY' ENTERED AT 07:25:32 ON 28 AUG 2006

L4 STRUCTURE UPLOADED
L5 0 S L4
L6 STRUCTURE UPLOADED
L7 50 S L6
L8 0 S L4 CSS
L9 STRUCTURE UPLOADED
L10 0 S L9
L11 SCREEN 1840 OR 2127
L12 STRUCTURE UPLOADED
L13 QUE L12 NOT L11
L14 0 S L13
L15 0 S L13 CSS
L16 STRUCTURE UPLOADED
L17 QUE L16
L18 0 S L17 CSS
L19 0 S L13 CSS
L20 0 S L17 CSS FUL
L21 STRUCTURE UPLOADED
L22 QUE L21
L23 2 S L21
L24 245 S L21 FUL
L25 50 S L6
L26 22081 S L6 FUL

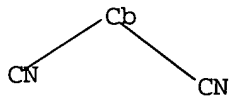
FILE 'CAPLUS' ENTERED AT 07:35:19 ON 28 AUG 2006

L27 6413 S L26/RCT
L28 70 S L24/P
L29 1 S L28 AND L27

=> d l6

L6 HAS NO ANSWERS

L6 STR



Structure attributes must be viewed using STN Express query preparation.

=> d l21

L21 HAS NO ANSWERS

L21 STR

CAS ONLINE PRINTOUT

=> d his

(FILE 'HOME' ENTERED AT 08:21:46 ON 28 AUG 2006)

FILE 'REGISTRY' ENTERED AT 08:21:54 ON 28 AUG 2006

FILE 'CAPLUS' ENTERED AT 08:21:58 ON 28 AUG 2006

E EP1449825/PN

L1 1 S E3
L2 10800 S AMINES, PREPARATION/IT
L3 0 S NITRILES, REACTIONS.IT
L4 4405 S NITRILES, REACTIONS/IT
L5 392 S L4 AND L2
L6 121270 S HYDROGENATION/IT
L7 254 S L6 AND L5
L8 138006 S PALLADIUM/IT
L9 36 S L8 AND L7
L10 514985 S NICKEL/IT
L11 25 S L10 AND L9
L12 137783 S AROM/IT
L13 5 S L12 AND L11

=> d bib abs it 1-5

L13 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2004:700273 CAPLUS

DN 141:190594

TI High-selectivity two-step hydrogenation process and catalysts for the
preparation of di(aminomethyl)aromatic compounds from dicyanoaromatic
compounds

IN Kanamori, Yoshinori; Ebata, Shuji; Tsukahara, Kengo; Yamamoto, Yoshiaki

PA Mitsubishi Gas Chemical Company, Inc., Japan

SO Eur. Pat. Appl., 12 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1449825	A1	20040825	EP 2004-2100	20040131
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	JP 2004269510	A2	20040930	JP 2004-31638	20040209
	CN 1523007	A	20040825	CN 2004-10005845	20040220
	US 2005277790	A1	20051215	US 2004-781884	20040220
PRAI	JP 2003-42397	A	20030220		

OS CASREACT 141:190594; MARPAT 141:190594

AB Di(aminomethyl)-substituted aromatic compds. [e.g., 1,3-bis(aminomethyl)benzene] is produced by a two-stage hydrogenation of a dicyanoarom. (e.g., isophthalonitrile) compound into a cyano(aminomethyl)-substituted aromatic compound [e.g., 3-(aminomethyl)benzonitrile] in the presence of a Pd-containing catalyst (e.g., Pd/Al₂O₃) and in the second-stage hydrogenation, the cyano(aminomethyl)-substituted aromatic compound is hydrogenated into the target compound in the presence of a Ni- and/or Co-containing catalyst (e.g., Raney Ni). This method produces the di(aminomethyl)-substituted aromatic compound in high selectivity and yield without reducing the catalyst life.

IT Hydrogenation catalysts

(Pd-containing catalyst and Ni- and/or Co-containing catalyst in the two-step hydrogenation process and catalysts for the preparation of

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- di(aminomethyl)arom. compds. from dicyanoarom. compds.)
- IT Nitriles, preparation
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (amino, cyano(aminomethyl)-substituted arom. compds.; in a high-selectivity two-step hydrogenation process for the preparation of di(aminomethyl)arom. compds. from dicyanoarom. compds.)
- IT Amines, preparation
 RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
 (diamines, arom., di(aminomethyl)arom. compds.; high-selectivity two-step hydrogenation process and catalysts for the preparation of di(aminomethyl)arom. compds. from dicyanoarom. compds.)
- IT Nitriles, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (dinitriles, arom.; high-selectivity two-step hydrogenation process and catalysts for the preparation of di(aminomethyl)arom. compds. from dicyanoarom. compds.)
- IT Hydrogenation
 (for the preparation of di(aminomethyl)arom. compds. from dicyanoarom. compds.)
- IT 7440-02-0, Raney nickel, uses
 RL: CAT (Catalyst use); USES (Uses)
 (catalysts; two-step hydrogenation process and catalysts for the preparation of di(aminomethyl)arom. compds. from dicyanoarom. compds.)
- IT 539-48-0P, 1,4-Bis(aminomethyl)benzene 1477-55-0P, 1,3-Bis(aminomethyl)benzene
 RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
 (high-selectivity two-step hydrogenation process and catalysts for the preparation of di(aminomethyl)arom. compds. from dicyanoarom. compds.)
- IT 623-26-7, Terephthalonitrile 626-17-5, Isophthalonitrile 13554-71-7, 1,5-Dicyanonaphthalene
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (high-selectivity two-step hydrogenation process and catalysts for the preparation of di(aminomethyl)arom. compds. from dicyanoarom. compds.)
- IT 10406-24-3P, 3-(Aminomethyl)benzonitrile 10406-25-4P, 4-(Aminomethyl)benzonitrile 740799-02-4P
 RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (in a high-selectivity two-step hydrogenation process for the preparation of di(aminomethyl)arom. compds. from dicyanoarom. compds.)
- IT 46263-19-8P, 1,5-Naphthalenedimethanamine
 RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
 (in a high-selectivity two-step hydrogenation process for the preparation of di(aminomethyl)arom. compds. from dicyanoarom. compds.)
- IT 1333-74-0, Hydrogen, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (in a two-step hydrogenation process for the preparation of di(aminomethyl)arom. compds. from dicyanoarom. compds.)
- IT 1344-28-1, Alumina, uses
 RL: CAT (Catalyst use); USES (Uses)
 (support; two-step hydrogenation process and catalysts for

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the preparation of di(aminomethyl)arom. compds. from dicyanoarom. compds.)

IT 7440-05-3, Palladium, uses 7440-48-4, Cobalt, uses
 RL: CAT (Catalyst use); USES (Uses)
 (two-step hydrogenation process and catalysts for the preparation
 of di(aminomethyl)arom. compds. from dicyanoarom. compds.)

L13 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2003:203176 CAPLUS

DN 138:223286

TI Monolith catalytic reactor coupled to a static mixer

IN Welp, Keith Allen; Cartolano, Anthony Rocco; Parrillo, David Joseph;
 Boehme, Richard Peter; Machado, Reinaldo Mario; Caram, Sylvia

PA USA

SO U.S. Pat. Appl. Publ., 9 pp., Cont.-in-part of U.S. Ser. No. 942,839.
 CODEN: USXXCO

DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003049185	A1	20030313	US 2002-53787	20020121
	US 2003050510	A1	20030313	US 2001-942839	20010830
	BR 2002003375	A	20030527	BR 2002-3375	20020826
	EP 1287884	A2	20030305	EP 2002-19084	20020828
	EP 1287884	A3	20040204		
	EP 1287884	B1	20060322		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
	AT 320848	E	20060415	AT 2002-19084	20020828
	JP 2003176255	A2	20030624	JP 2002-251007	20020829
	CN 1403191	A	20030319	CN 2002-132115	20020830
	US 2005129594	A1	20050616	US 2005-48582	20050201
PRAI	US 2001-942839	A2	20010830		
	US 2002-53787	A	20020121		

AB The title apparatus is comprised of a monolith catalytic reactor having an inlet and an outlet and a static mixer having an inlet and an outlet with the outlet of the static mixer in communication with the inlet of the monolith catalytic reactor. For effecting a reaction (e.g., hydrogenation) in the monolith catalytic reactor, a reactant gas (e.g., hydrogen) and a reactant liquid (e.g., dinitrotoluene) are fed into the inlet to the monolith catalytic reactor, reacted and, then, the reaction product (e.g., diaminotoluene) passed through the outlet of the monolith catalytic reactor.

IT Imines

RL: EPR (Engineering process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
 (aldimines; monolith catalytic hydrogenation reactor coupled
 to a static mixer for the hydrogenation of)

IT Hydrogenation

(apparatus; monolith catalytic reactor coupled to a static mixer)

IT Nitro compounds

RL: EPR (Engineering process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
 (arom.; monolith catalytic hydrogenation reactor
 coupled to a static mixer for the hydrogenation of)

IT Catalyst supports

(honeycomb; in a monolith catalytic reactor coupled to a static mixer)

IT Reactors

(hydrogenation; monolith catalytic reactor coupled to a
 static mixer)

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- IT Group IB elements
Group VIB elements
Group VIIB elements
Group VIII elements
RL: CAT (Catalyst use); USES (Uses)
(in a monolith catalytic reactor coupled to a static mixer)
- IT Imines
RL: EPR (Engineering process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(ketimines; monolith catalytic hydrogenation reactor coupled to a static mixer for the hydrogenation of)
- IT Nitriles, reactions
Unsaturated compounds
RL: EPR (Engineering process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(monolith catalytic hydrogenation reactor coupled to a static mixer for the hydrogenation of)
- IT Amines, preparation
RL: EPR (Engineering process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)
(monolith catalytic hydrogenation reactor coupled to a static mixer for the hydrogenation of unsatd. compds. leading to)
- IT Hydrogenation catalysts
Reactors
(monolith catalytic reactor coupled to a static mixer)
- IT Aromatic compounds
RL: EPR (Engineering process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(nitro; monolith catalytic hydrogenation reactor coupled to a static mixer for the hydrogenation of)
- IT Mixers (processing apparatus)
(static; monolith catalytic reactor coupled to a static mixer)
- IT Hydrogenation
(using a monolith catalytic reactor coupled to a static mixer)
- IT 7440-02-0, Nickel, processes 7440-05-3, Palladium, processes
RL: CAT (Catalyst use); EPR (Engineering process); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(in a monolith catalytic hydrogenation reactor coupled to a static mixer)
- IT 26764-44-3P
RL: EPR (Engineering process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)
(in a monolith catalytic hydrogenation reactor coupled to a static mixer)
- IT 25321-14-6, Dinitrotoluene
RL: EPR (Engineering process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(in a monolith catalytic hydrogenation reactor coupled to a static mixer)
- IT 1333-74-0, Hydrogen, reactions
RL: EPR (Engineering process); PEP (Physical, engineering or chemical process); RCT (Reactant); RGT (Reagent); PROC (Process); RACT (Reactant or reagent)
(in a monolith catalytic hydrogenation reactor coupled to a static mixer)
- IT 1302-88-1, Cordierite 1344-28-1, Alumina, processes
RL: CAT (Catalyst use); EPR (Engineering process); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)

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(support; in a monolith catalytic hydrogenation reactor
coupled to a static mixer)

L13 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2002:977775 CAPLUS

DN 138:39092

TI Chemoselective hydrogenation process and catalysts for the production of
primary (haloarylmethyl)amines from halobenzonitriles

IN Kondo, Hideyuki; Suyama, Yuseki; Morikawa, Kohei

PA Showa Denko K.K., Japan

SO PCT Int. Appl., 26 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002102760	A1	20021227	WO 2002-JP6008	20020617
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	JP 2003073342	A2	20030312	JP 2002-115549	20020418
	EP 1401799	A1	20040331	EP 2002-736129	20020617
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	RU 2247713	C2	20050310	RU 2003-107058	20020617
	US 2003158444	A1	20030821	US 2003-344263	20030210
	US 6960691	B2	20051101		
PRAI	JP 2001-183006	A	20010618		
	US 2001-301144P	P	20010628		
	JP 2002-115549	A	20020418		
	JP 2001-115549	A	20020418		
	WO 2002-JP6008	W	20020617		

OS CASREACT 138:39092; MARPAT 138:39092

AB In an industrially viable process, halobenzonitriles (e.g., tetrafluoroterephthalonitrile), useful as intermediates, are chemoselectively hydrogenated into their corresponding primary (haloarylmethyl)amines [e.g., 1,4-bis(aminomethyl)-2,3,5,6-tetrafluorobenzene] in the presence of a hydrogenation catalyst (e.g., sponge nickel) and an organic acid (e.g., acetic acid) in a solvent (e.g., toluene and water).

IT Nitriles, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)
(arom., halobenzonitriles; chemoselective
hydrogenation process and catalysts for the production of primary
(haloarylmethyl)amines from halobenzonitriles)

IT Chemoselectivity

(chemoselective hydrogenation process and catalysts for the
production of primary (haloarylmethyl)amines from halobenzonitriles)

IT Hydrogenation

(chemoselective; for the production of primary (haloarylmethyl)amines from
halobenzonitriles)

IT Hydrogenation catalysts

(chemoselective; transition metals in the presence of organic acids for
the production of primary (haloarylmethyl)amines from halobenzonitriles)

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- IT Amines, preparation
 RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
 (diamines, arom., diaminohaloarenes; chemoselective hydrogenation process and catalysts for the production of primary (haloarylmethyl)amines from halobenzonitriles)
- IT Nitriles, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (dinitriles, halobenzodinitriles; chemoselective hydrogenation process and catalysts for the production of primary (haloarylmethyl)amines from halobenzonitriles)
- IT Carboxylic acids, uses
 RL: CAT (Catalyst use); USES (Uses)
 (hydrogenation catalysts with transition metals for the production of primary (haloarylmethyl)amines from halobenzonitriles)
- IT Acids, uses
 RL: CAT (Catalyst use); USES (Uses)
 (organic; hydrogenation catalysts with transition metals for the production of primary (haloarylmethyl)amines from halobenzonitriles)
- IT Amines, preparation
 RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
 (primary, (haloarylmethyl)amines; chemoselective hydrogenation process and catalysts for the production of primary (haloarylmethyl)amines from halobenzonitriles)
- IT Alcohols, uses
 Aromatic hydrocarbons, uses
 Esters, uses
 Ethers, uses
 Hydrocarbons, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (solvents; in a chemoselective hydrogenation process for the production of primary (haloarylmethyl)amines from halobenzonitriles)
- IT 89992-50-7P 478912-17-3P
 RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
 (chemoselective hydrogenation process and catalysts for the production of primary (haloarylmethyl)amines from halobenzonitriles)
- IT 1835-49-0, Tetrafluoroterephthalonitrile 2377-81-3, Tetrafluoroisophthalonitrile
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (chemoselective hydrogenation process and catalysts for the production of primary (haloarylmethyl)amines from halobenzonitriles)
- IT 7439-98-7, Molybdenum, uses 7440-02-0, Nickel, uses 7440-05-3, Palladium, uses 7440-06-4, Platinum, uses 7440-18-8, Ruthenium, uses 7440-48-4, Cobalt, uses 7440-50-8, Copper, uses
 RL: CAT (Catalyst use); USES (Uses)
 (hydrogenation catalyst with organic acids for the production of primary (haloarylmethyl)amines from halobenzonitriles)
- IT 64-18-6, Formic acid, uses 64-19-7, Acetic acid, uses 79-09-4, Propionic acid, uses
 RL: CAT (Catalyst use); USES (Uses)
 (hydrogenation catalyst with transition metals for the production of primary (haloarylmethyl)amines from halobenzonitriles)
- IT 1333-74-0, Hydrogen, reactions
 RL: RCT (Reactant); RGT (Reagent); RACT (Reactant or reagent)
 (in a chemoselective hydrogenation process for the production of primary (haloarylmethyl)amines from halobenzonitriles)
- IT 64-17-5, Ethanol, uses 67-56-1, Methanol, uses 71-43-2, Benzene, uses 100-41-4, Ethylbenzene, uses 108-88-3, Toluene, uses 109-99-9, THF,

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uses 110-54-3, Hexane, uses 110-82-7, Cyclohexane, uses 123-91-1, Dioxane, uses 141-78-6, Ethyl acetate, uses 646-06-0, Dioxolane 1330-20-7, Xylene, uses 7732-18-5, Water, uses 62309-51-7, Propanol
 RL: NUJ (Other use, unclassified); USES (Uses)

(solvent; in a chemoselective hydrogenation process for the production of primary (haloarylmethyl)amines from halobenzonitriles)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2002:907219 CAPLUS

DN 137:386325

TI Hydrogenation catalysts and process for producing aromatic amines from aromatic nitriles

IN Kanamori, Yoshinori; Ebata, Shuji; Tsukahara, Kengo; Hiramatsu, Yasushi
 PA Japan

SO U.S. Pat. Appl. Publ., 8 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002177735	A1	20021128	US 2002-139214	20020507
	EP 1262232	A1	20021204	EP 2002-10805	20020515
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	JP 2003038958	A2	20030212	JP 2002-145801	20020521
	JP 2003038956	A2	20030212	JP 2002-145802	20020521
PRAI	JP 2001-152012	A	20010522		
	JP 2001-152013	A	20010522		

AB Catalysts for producing aromatic amines (e.g., 3-(aminomethyl)benzyl amine) by hydrogenating aromatic nitriles (e.g., isophthalonitrile) comprise: (1) the catalyst comprising a metal catalyst component comprising Ni and/or Co and a specific amount of zirconia as a carrier component, which is prepared by drying, calcining and forming a precipitate produced by adding an aqueous solution

containing soluble salts of the metal catalyst component and the carrier component to an aqueous alkali solution; and (2) the catalyst comprising the metal catalyst component and the carrier component, which is prepared by filtering a precipitate produced by adding an aqueous solution containing soluble salts of the

metal catalyst component and the carrier component to an aqueous alkali solution;

forming the precipitate without drying to obtain a formed product; and subjecting

the formed product to drying and then calcining. These catalysts are free from breaking owing to rapid generation of methane and evaporation of liquid ammonia by hydrogenolysis of high boiling byproducts of the hydrogenation when reactivated after deactivation of the catalyst, which allows the long-term use of the catalysts.

IT Amines, preparation

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)

(arom.; hydrogenation catalysts and process for producing arom. amines from arom. nitriles)

IT Nitriles, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(arom.; hydrogenation catalysts and process for producing arom. amines from arom. nitriles)

IT Hydrogenation

CAS ONLINE PRINTOUT

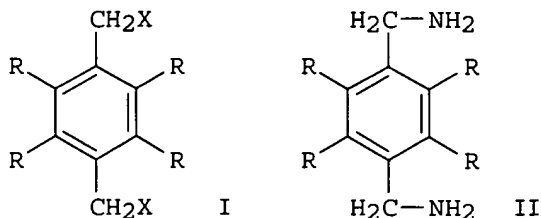
- (for producing arom. amines from arom. nitriles)
- IT Calcination
Drying
Granulation
Precipitation (chemical)
(in the preparation of hydrogenation catalysts and process for producing arom. amines from arom. nitriles)
- IT Alkali metal hydroxides
RL: RGT (Reagent); RACT (Reactant or reagent)
(in the preparation of hydrogenation catalysts and process for producing arom. amines from arom. nitriles)
- IT Molding
(press, tableting; in the preparation of hydrogenation catalysts and process for producing arom. amines from arom. nitriles)
- IT Hydrogenation catalysts
(supported Ni and/or Co compns. for producing arom. amines from arom. nitriles)
- IT 7440-02-0, Nickel, processes 7440-48-4, Cobalt, processes
RL: CAT (Catalyst use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(hydrogenation catalysts and process for producing arom. amines from arom. nitriles)
- IT 623-26-7, Terephthalonitrile 626-17-5, Isophthalonitrile
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrogenation catalysts containing Ni and/or Co and process for producing arom. amines from arom. nitriles)
- IT 539-48-0P, 1,4-Bis(aminomethyl)benzene 1477-55-0P, 1,3-Bis(aminomethyl)benzene
RL: SPN (Synthetic preparation); PREP (Preparation)
(hydrogenation catalysts containing Ni and/or Co and process for producing arom. amines from arom. nitriles)
- IT 7429-90-5, Aluminum, processes 7439-88-5, Iridium, processes 7439-89-6, Iron, processes 7439-96-5, Manganese, processes 7439-98-7, Molybdenum, processes 7440-03-1, Niobium, processes 7440-05-3, Palladium, processes 7440-06-4, Platinum, processes 7440-09-7, Potassium, processes 7440-16-6, Rhodium, processes 7440-17-7, Rubidium, processes 7440-18-8, Ruthenium, processes 7440-21-3, Silicon, processes 7440-23-5, Sodium, processes 7440-24-6, Strontium, processes 7440-32-6, Titanium, processes 7440-39-3, Barium, processes 7440-41-7, Beryllium, processes 7440-45-1, Cerium, processes 7440-46-2, Cesium, processes 7440-47-3, Chromium, processes 7440-50-8, Copper, processes 7440-55-3, Gallium, processes 7440-56-4, Germanium, processes 7440-66-6, Zinc, processes 7440-69-9, Bismuth, processes 7440-70-2, Calcium, processes 7440-74-6, Indium, processes
RL: CAT (Catalyst use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(in hydrogenation catalysts containing Ni and/or Co and process for producing arom. amines from arom. nitriles)
- IT 7732-18-5, Water, processes
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PYP (Physical process); REM (Removal or disposal); PROC (Process); USES (Uses)
(solvent; in the preparation of hydrogenation catalysts and process for producing arom. amines from arom. nitriles)
- IT 1314-23-4, Zirconia, processes 1344-28-1, Alumina, processes 7631-86-9, Silica, processes 13463-67-7, Titania, processes 159995-97-8, Aluminum silicon oxide
RL: CAT (Catalyst use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)

CAS ONLINE PRINTOUT

(support; hydrogenation catalysts and process for producing
arom. amines from arom. nitriles)

L13 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2001:564968 CAPLUS
DN 135:122305
TI Method for producing 2,3,5,6-(tetrahalo)xylylidene compounds
IN Langer, Reinhard; Rodefeld, Lars
PA Bayer Aktiengesellschaft, Germany
SO PCT Int. Appl., 18 pp.
CODEN: PIXXD2
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001055064	A1	20010802	WO 2001-EP446	20010117
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	DE 10003320	A1	20010809	DE 2000-10003320	20000127
	DE 10003320	C2	20020411		
	AU 2001035423	A5	20010807	AU 2001-35423	20010117
	EP 1254096	A1	20021106	EP 2001-907453	20010117
	EP 1254096	B1	20051109		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	JP 2003523966	T2	20030812	JP 2001-555009	20010117
	US 2002198401	A1	20021226	US 2002-181997	20020724
	US 6753444	B2	20040622		
PRAI	DE 2000-10003320	A	20000127		
	WO 2001-EP446	W	20010117		
OS	CASREACT 135:122305; MARPAT 135:122305				
GI					



AB 2,3,5,6-(Tetrahalo)xylylidene compds. (I; R = F, Cl; X = F, Cl, Br, OR₁, O₂CR₁; R₁ = H, alkyl, aryl) are prepared in high yield and selectivity by the tetrazotization of the corresponding diamines (II; prepared by hydrogenation of the corresponding dinitriles) with alkyl nitrites or nitrous acid in the presence of HX as a solvent. Thus, 2,3,5,6-tetrafluoroxilylylidene diamine bisulfate was tetraazotized with sodium nitrite in sulfuric acid and the tetrazonium salt hydrolyzed, producing 2,3,5,6-tetrafluoroxilylylidenediol in 76% yield.

CAS ONLINE PRINTOUT

- IT Amines, preparation
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (diamines, arom., 2,3,5,6-(tetrahalo)xylylidene diamines;
 tetrazotization and reaction into 2,3,5,6-(tetrahalo)xylylidene
 compds.)
- IT Nitriles, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (dinitriles, 2,3,5,6-(tetrahalo)-1,4-dicyanobenzenes;
 hydrogenation of)
- IT Platinum-group metals
 RL: CAT (Catalyst use); USES (Uses)
 (hydrogenation catalysts for the preparation of
 2,3,5,6-(tetrahalo)xylylidene diamines from the corresponding
 dinitriles)
- IT Acids, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (inorg.; producing 2,3,5,6-(tetrahalo)xylylidene compds. using)
- IT Distillation
 (method for producing 2,3,5,6-(tetrahalo)xylylidene compds. using)
- IT Hydrogenation
 (of 2,3,5,6-(tetrahalo)-1,4-dicyanobenzenes into their corresponding
 diamines)
- IT Carboxylic acids, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (producing 2,3,5,6-(tetrahalo)xylylidene compds. using)
- IT Diazotization
 (tetrazotization; of 2,3,5,6-(tetrahalo)xylylidene diamine in the
 preparation of 2,3,5,6-(tetrahalo)xylylidene compds.)
- IT 7440-02-0, Nickel, uses 7440-05-3, Palladium, uses
 7440-06-4, Platinum, uses 7440-16-6, Rhodium, uses 7440-18-8,
 Ruthenium, uses 7440-48-4, Cobalt, uses
 RL: CAT (Catalyst use); USES (Uses)
 (hydrogenation catalyst for the preparation of
 2,3,5,6-(tetrahalo)xylylidene diamines from the corresponding
 dinitriles)
- IT 1835-49-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (hydrogenation of)
- IT 92339-07-6P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (method for producing 2,3,5,6-(tetrahalo)xylylidene compds.)
- IT 7732-18-5, Water, reactions
 RL: NUU (Other use, unclassified); RCT (Reactant); RACT (Reactant or
 reagent); USES (Uses)
 (method for producing 2,3,5,6-(tetrahalo)xylylidene compds. using)
- IT 64-18-6, Formic acid, reactions 64-19-7, Acetic acid, reactions
 65-85-0, Benzoic acid, reactions 79-09-4, Propionic acid, reactions
 109-95-5, Ethyl nitrite 110-46-3, Isoamyl nitrite 624-91-9, Methyl
 nitrite 7632-00-0, Sodium nitrite 7647-01-0, Hydrochloric acid,
 reactions 7664-38-2, Phosphoric acid, reactions 7664-39-3,
 Hydrofluoric acid, reactions 7664-93-9, Sulfuric acid, reactions
 7758-09-0, Potassium nitrite 7789-21-1, Fluorosulfonic acid 7790-94-5,
 Chlorosulfonic acid 13780-06-8, Calcium nitrite 15070-34-5, Magnesium
 nitrite
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (method for producing 2,3,5,6-(tetrahalo)xylylidene compds. using)
- IT 7782-77-6P, Nitrous acid 350830-30-7P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (method for producing 2,3,5,6-(tetrahalo)xylylidene compds. using)

CAS ONLINE PRINTOUT

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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CAS ONLINE PRINTOUT

=> d his

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FILE 'REGISTRY' ENTERED AT 08:21:54 ON 28 AUG 2006

FILE 'CAPLUS' ENTERED AT 08:21:58 ON 28 AUG 2006

E EP1449825/PN

L1 1 S E3
 L2 10800 S AMINES, PREPARATION/IT
 L3 0 S NITRILES, REACTIONS.IT
 L4 4405 S NITRILES, REACTIONS/IT
 L5 392 S L4 AND L2
 L6 121270 S HYDROGENATION/IT
 L7 254 S L6 AND L5
 L8 138006 S PALLADIUM/IT
 L9 36 S L8 AND L7
 L10 514985 S NICKEL/IT
 L11 25 S L10 AND L9
 L12 137783 S AROM/IT
 L13 5 S L12 AND L11

=> s stage?

L14 618810 STAGE?

=> s l14 and l13

L15 1 L14 AND L13

=> d bib

L15 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2004:700273 CAPLUS

DN 141:190594

TI High-selectivity two-step hydrogenation process and catalysts for the preparation of di(aminomethyl)aromatic compounds from dicyanoaromatic compounds

IN Kanamori, Yoshinori; Ebata, Shuji; Tsukahara, Kengo; Yamamoto, Yoshiaki

PA Mitsubishi Gas Chemical Company, Inc., Japan

SO Eur. Pat. Appl., 12 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1449825	A1	20040825	EP 2004-2100	20040131
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	JP 2004269510	A2	20040930	JP 2004-31638	20040209
	CN 1523007	A	20040825	CN 2004-10005845	20040220
	US 2005277790	A1	20051215	US 2004-781884	20040220
PRAI	JP 2003-42397	A	20030220		
OS	CASREACT 141:190594; MARPAT 141:190594				

=>

CAS ONLINE PRINTOUT

=> d his

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FILE 'REGISTRY' ENTERED AT 07:16:29 ON 28 AUG 2006

FILE 'CASREACT' ENTERED AT 07:16:36 ON 28 AUG 2006

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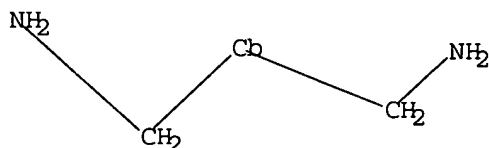
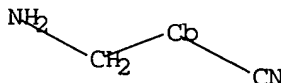
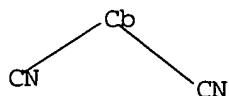
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L3 5 S L1 FUL

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L1 HAS NO ANSWERS

L1 STR



Structure attributes must be viewed using STN Express query preparation.

=> d bib hit 1-5

L3 ANSWER 1 OF 5 CASREACT COPYRIGHT 2006 ACS on STN

AN 141:190594 CASREACT

TI High-selectivity two-step hydrogenation process and catalysts for the preparation of di(aminomethyl)aromatic compounds from dicyanoaromatic compounds

IN Kanamori, Yoshinori; Ebata, Shuji; Tsukahara, Kengo; Yamamoto, Yoshiaki

PA Mitsubishi Gas Chemical Company, Inc., Japan

SO Eur. Pat. Appl., 12 pp.

CODEN: EPXXDW

DT Patent

LA English

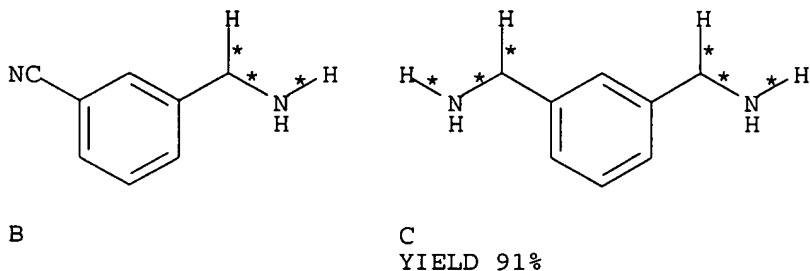
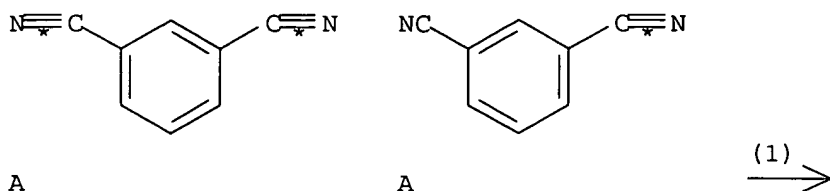
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1449825	A1	20040825	EP 2004-2100	20040131
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				

CAS ONLINE PRINTOUT

JP 2004269510	A2	20040930	JP 2004-31638	20040209
CN 1523007	A	20040825	CN 2004-10005845	20040220
US 2005277790	A1	20051215	US 2004-781884	20040220
PRAI JP 2003-42397	20030220			
OS MARPAT 141:190594				

RX(1) OF 6 2 A ==> B + C



RX(1)

STAGE(1)

CAT 13138-45-9 Ni(NO3)2, 10141-05-6 Co(NO3)2
SOL 7732-18-5 Water
CON 40 deg C

STAGE(2)

RGT D 1066-33-7 NH4 bicarbonate
SOL 7732-18-5 Water
CON SUBSTAGE(1) 40 deg C
SUBSTAGE(2) 40 deg C -> 80 deg C
SUBSTAGE(3) 30 minutes, 80 deg C
SUBSTAGE(4) 80 deg C -> 40 deg C

STAGE(3)

RGT E 13746-89-9 Nitric acid, zirconium(4+) salt
SOL 7732-18-5 Water
CON SUBSTAGE(1) 40 deg C
SUBSTAGE(2) 30 minutes, 40 deg C

STAGE(4)

CON 18 hours, 380 deg C

STAGE(5)

RGT F 1333-74-0 H2
CON 400 deg C

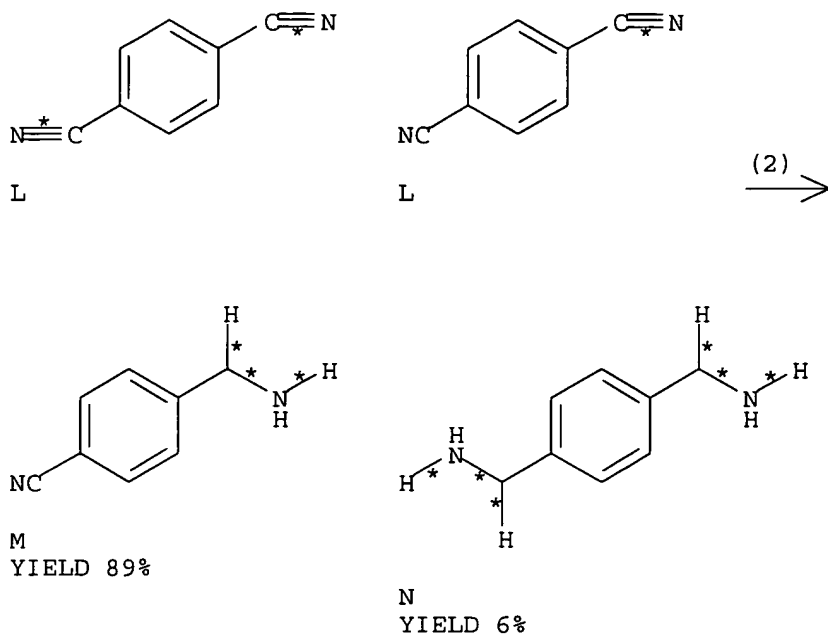
CAS ONLINE PRINTOUT

STAGE(6)

RCT A 626-17-5
 RGT F 1333-74-0 H2, G 108-67-8 Mesitylene
 SOL 7664-41-7 NH3
 CON SUBSTAGE(1) 4.9 MPa
 SUBSTAGE(2) 50 deg C

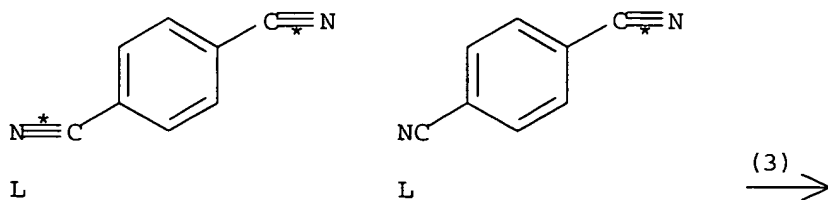
PRO B 10406-24-3, C 1477-55-0
 NTE catalyst was calcined, thermal

RX(2) OF 6 2 L ==> M + N

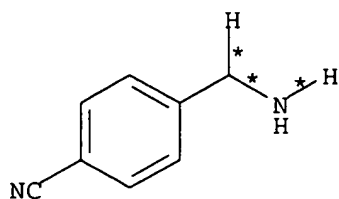


RX(2) RCT L 623-26-7
 RGT F 1333-74-0 H2, G 108-67-8 Mesitylene
 PRO M 10406-25-4, N 539-48-0
 CAT 7440-05-3 Pd, 1344-28-1 Al2O3
 SOL 7664-41-7 NH3
 CON SUBSTAGE(1) room temperature, 4.9 MPa
 SUBSTAGE(2) 50 deg C

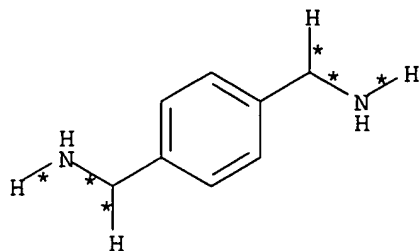
RX(3) OF 6 2 L ==> M + N



CAS ONLINE PRINTOUT



M



N

YIELD 92%

RX(3)

STAGE(1)

CAT 13138-45-9 Ni(NO₃)₂, 10141-05-6 Co(NO₃)₂
 SOL 7732-18-5 Water
 CON 40 deg C

STAGE(2)

RGT D 1066-33-7 NH₄ bicarbonate
 SOL 7732-18-5 Water
 CON SUBSTAGE(1) 40 deg C
 SUBSTAGE(2) 40 deg C -> 80 deg C
 SUBSTAGE(3) 30 minutes, 80 deg C
 SUBSTAGE(4) 80 deg C -> 40 deg C

STAGE(3)

RGT E 13746-89-9 Nitric acid, zirconium(4+) salt
 SOL 7732-18-5 Water
 CON SUBSTAGE(1) 40 deg C
 SUBSTAGE(2) 30 minutes, 40 deg C

STAGE(4)

CON 18 hours, 380 deg C

STAGE(5)

RGT F 1333-74-0 H₂
 CON 400 deg C

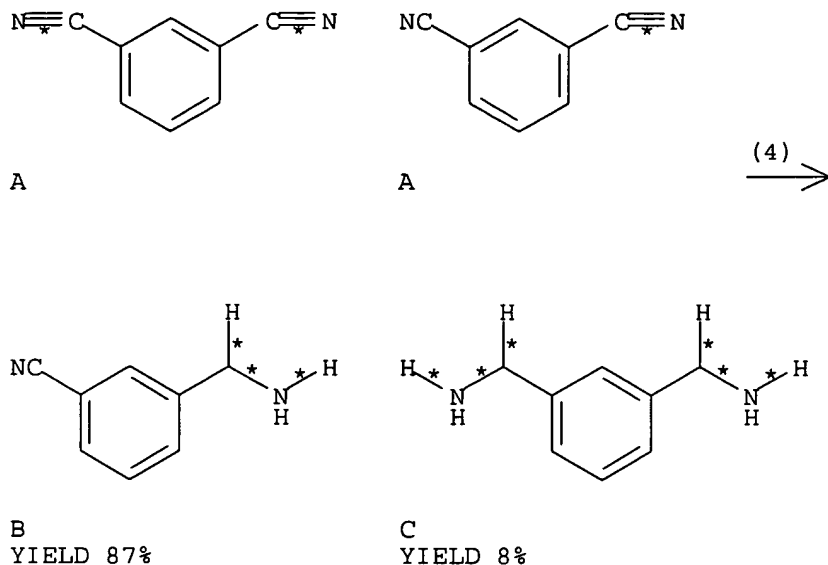
STAGE(6)

RCT L 623-26-7
 RGT F 1333-74-0 H₂, G 108-67-8 Mesitylene
 SOL 7664-41-7 NH₃
 CON SUBSTAGE(1) 4.9 MPa
 SUBSTAGE(2) 50 deg C

CAS ONLINE PRINTOUT

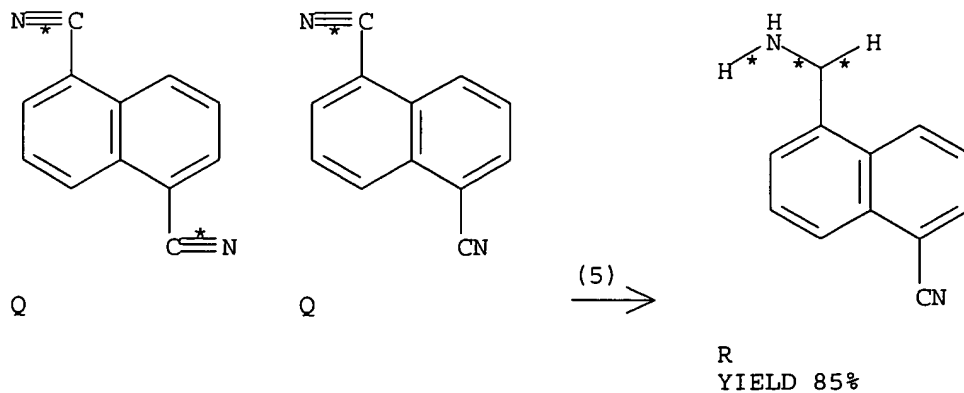
PRO M 10406-25-4, N 539-48-0
NTE catalyst was calcined, thermal

RX(4) OF 6 2 A ==> B + C

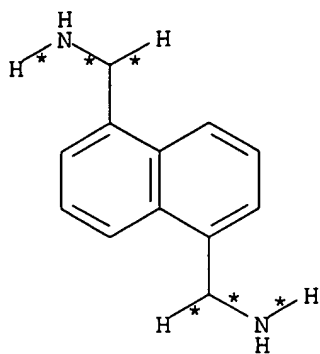


RX(4) RCT A 626-17-5
 RGT F 1333-74-0 H2, G 108-67-8 Mesitylene
 PRO B 10406-24-3, C 1477-55-0
 CAT 7440-05-3 Pd, 1344-28-1 Al2O3
 SOL 7664-41-7 NH3
 CON SUBSTAGE(1) room temperature, 4.9 MPa
 SUBSTAGE(2) 50 deg C

RX(5) OF 6 2 Q ==> R + S



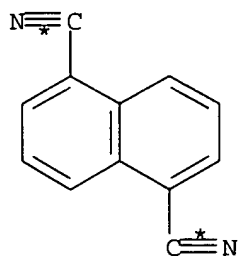
CAS ONLINE PRINTOUT



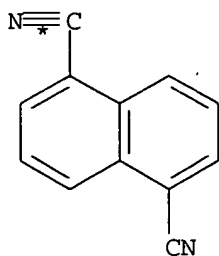
S
YIELD 4%

RX(5) RCT Q 13554-71-7
 RGT F 1333-74-0 H2, G 108-67-8 Mesitylene
 PRO R 740799-02-4, S 46263-19-8
 CAT 7440-05-3 Pd, 1344-28-1 Al2O3
 SOL 7664-41-7 NH3
 CON SUBSTAGE(1) room temperature, 4.9 MPa
 SUBSTAGE(2) 50 deg C

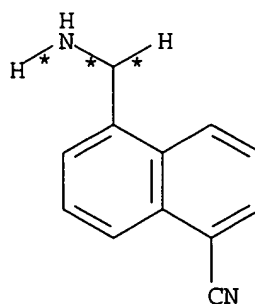
RX(6) OF 6 2 Q ==> R + S



Q

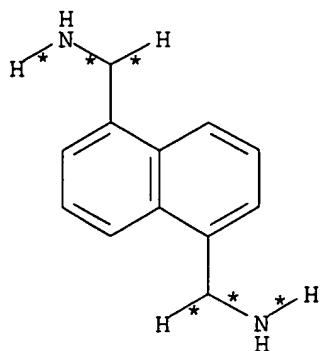


Q



R
YIELD 2%

CAS ONLINE PRINTOUT



S
YIELD 87%

RX(6)

STAGE(1)

CAT 13138-45-9 Ni(NO3)2, 10141-05-6 Co(NO3)2
SOL 7732-18-5 Water
CON 40 deg C

STAGE(2)

RGT D 1066-33-7 NH4 bicarbonate
SOL 7732-18-5 Water
CON SUBSTAGE(1) 40 deg C
SUBSTAGE(2) 40 deg C -> 80 deg C
SUBSTAGE(3) 30 minutes, 80 deg C
SUBSTAGE(4) 80 deg C -> 40 deg C

STAGE(3)

RGT E 13746-89-9 Nitric acid, zirconium(4+) salt
SOL 7732-18-5 Water
CON SUBSTAGE(1) 40 deg C
SUBSTAGE(2) 30 minutes, 40 deg C

STAGE(4)

CON 18 hours, 380 deg C

STAGE(5)

RGT F 1333-74-0 H2
CON 400 deg C

STAGE(6)

RCT Q 13554-71-7
RGT F 1333-74-0 H2, G 108-67-8 Mesitylene
SOL 7664-41-7 NH3
CON SUBSTAGE(1) 4.9 MPa
SUBSTAGE(2) 50 deg C

PRO R 740799-02-4, S 46263-19-8
NTE catalyst was calcined, thermal

L3 ANSWER 2 OF 5 CASREACT COPYRIGHT 2006 ACS on STN
AN 137:353285 CASREACT
TI Convenient synthesis of human calcitonin and its methionine sulfoxide derivative

CAS ONLINE PRINTOUT

AU Shi, Tiesheng; Rabenstein, Dallas L.
 CS Department of Chemistry, University of California, Riverside, CA, 92521,
 USA
 SO Bioorganic & Medicinal Chemistry Letters (2002), 12(16), 2237-2240
 CODEN: BMCLE8; ISSN: 0960-894X
 PB Elsevier Science Ltd.
 DT Journal
 LA English
 RE.CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

VERIFICATION INCOMPLETE

RX(40) OF 40 COMPOSED OF REACTION SEQUENCE RX(1), RX(3), RX(6)
 AND REACTION SEQUENCE RX(2), RX(3), RX(6)
 AND REACTION SEQUENCE RX(2), RX(4), RX(6)
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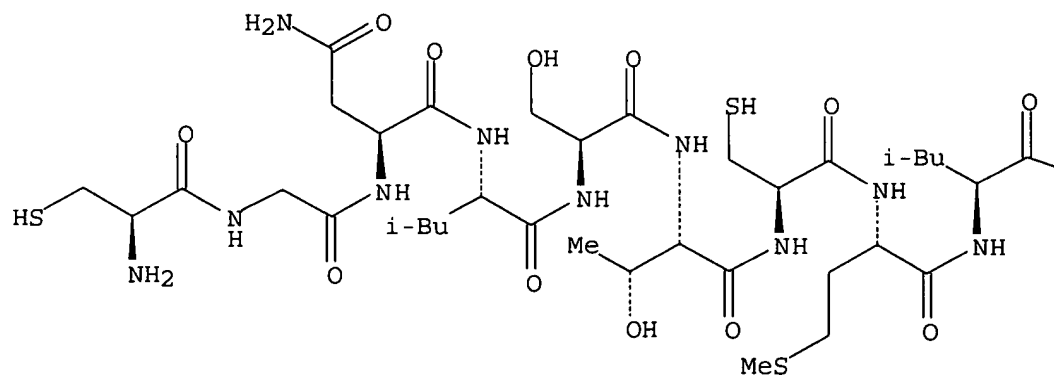
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 N + O + P + Q + X ==> Y...
 ...A + B + C + D + E + F + G + H + I + J + K + L + M +
 N + W + P + Q ==> X...
 ...A + B + C + D + E + F + G + H + I + J + K + L + M +
 N + W + P + Q ==> X...
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 N + O + P + Q + X + Y ==> AH

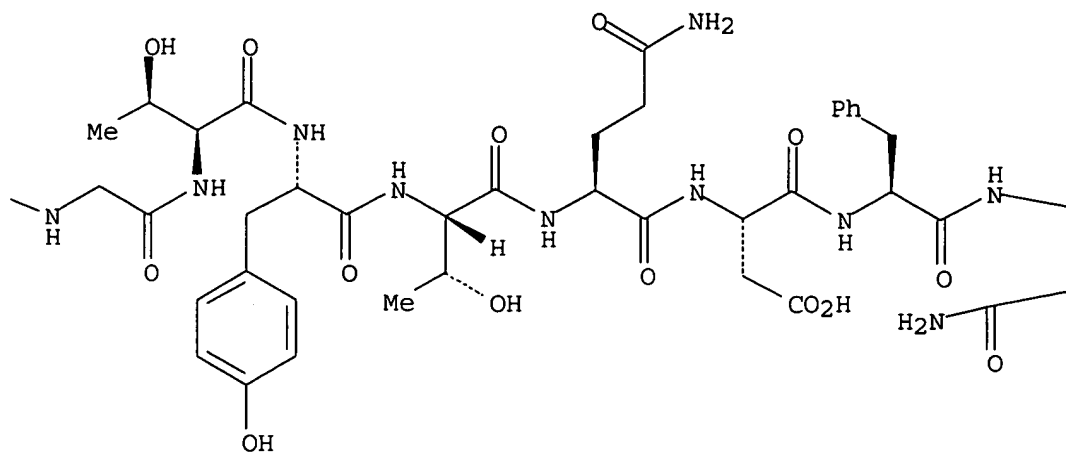
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STEPS



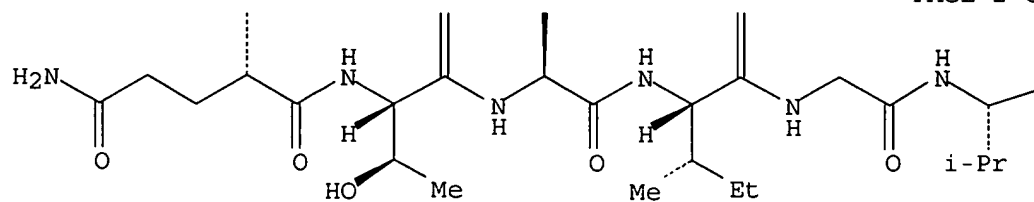
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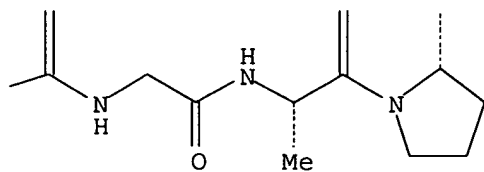


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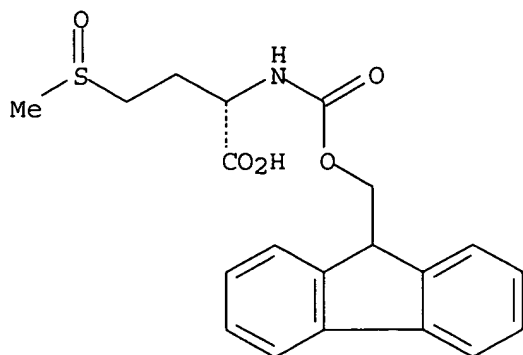
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *



START NEXT REACTION SEQUENCE



Y



2 W

3
STEPS
→

START NEXT REACTION SEQUENCE

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IS NOT
AVAILABLE

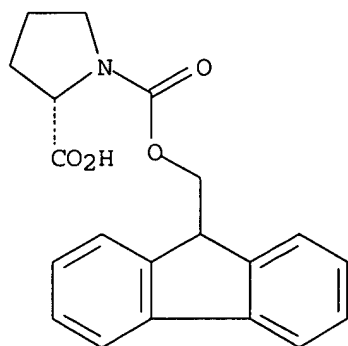
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STEPS
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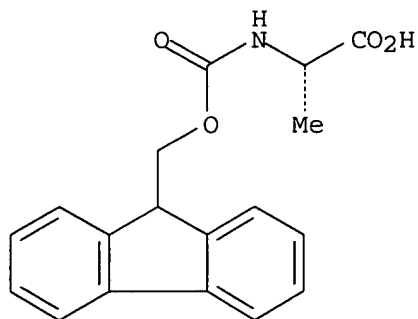
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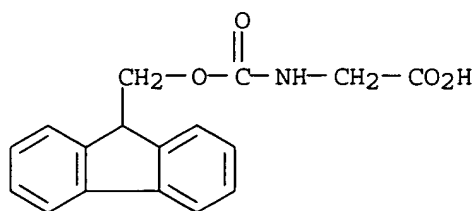
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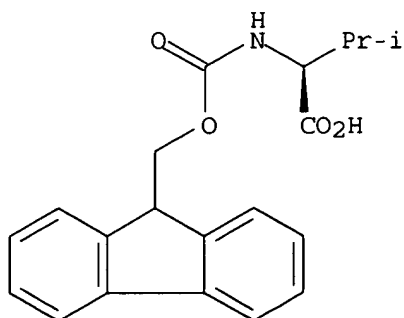
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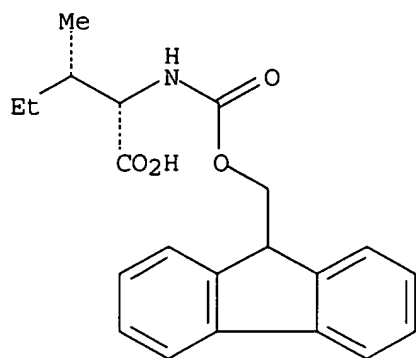
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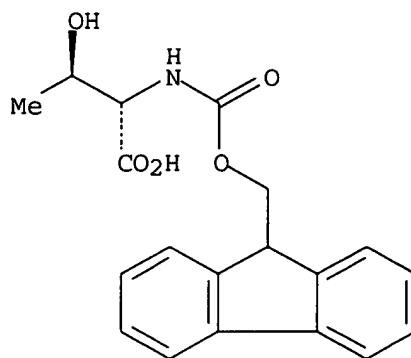
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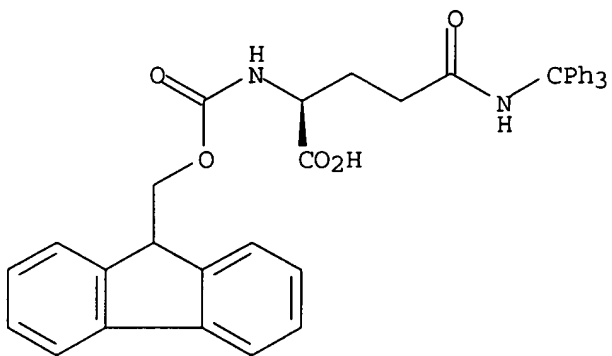
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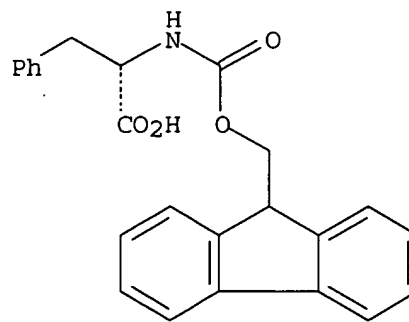
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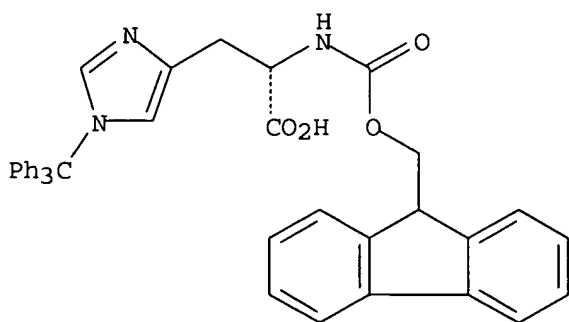
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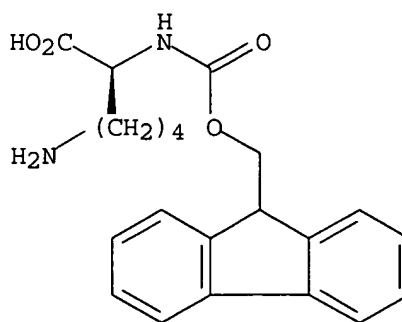
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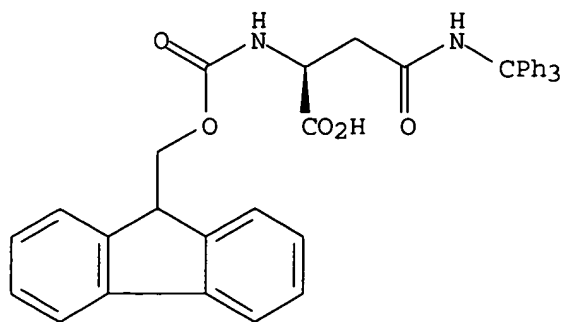
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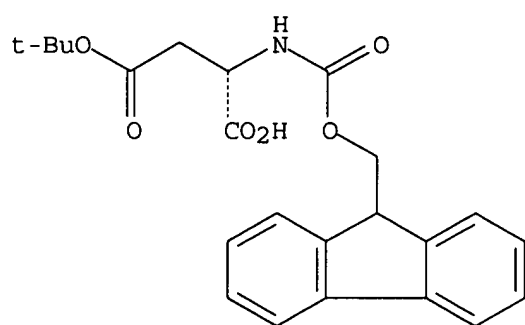
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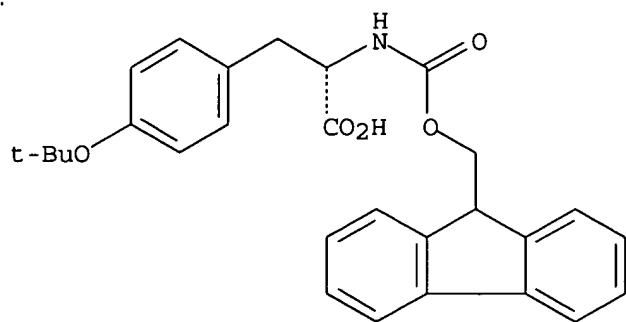
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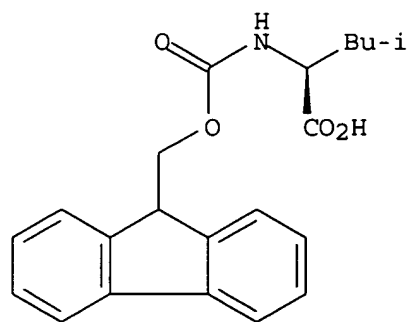
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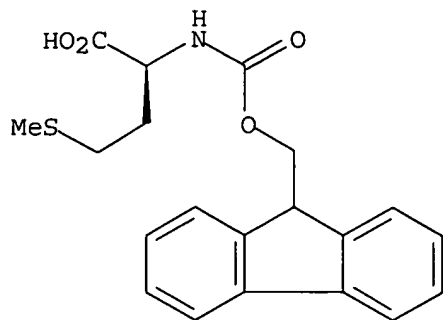
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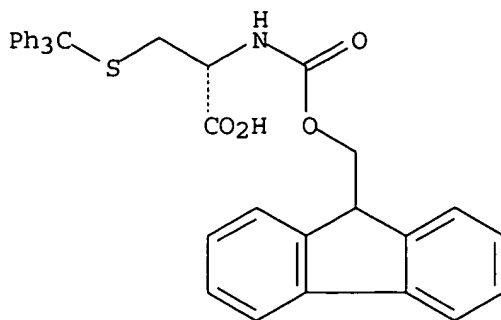
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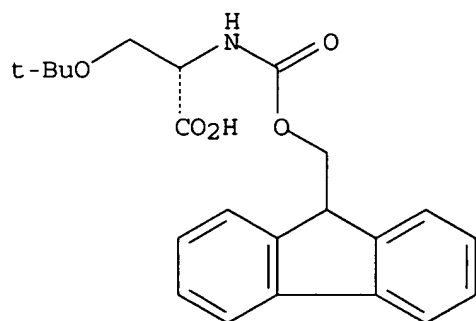
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2 O



4 P

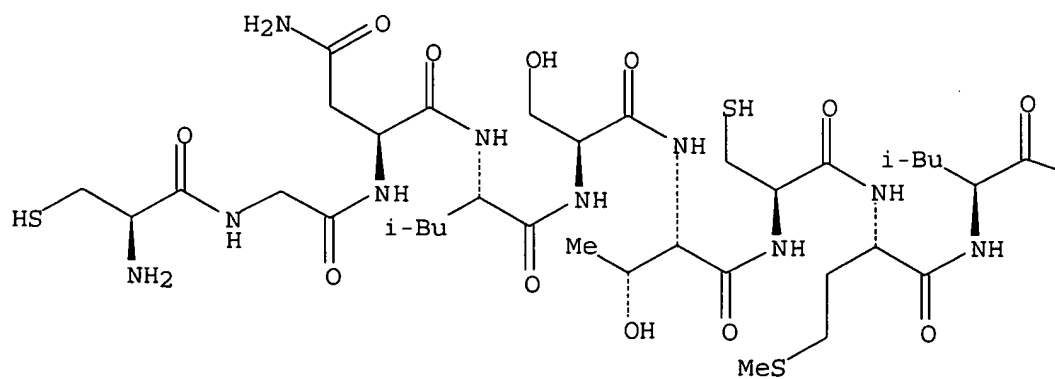


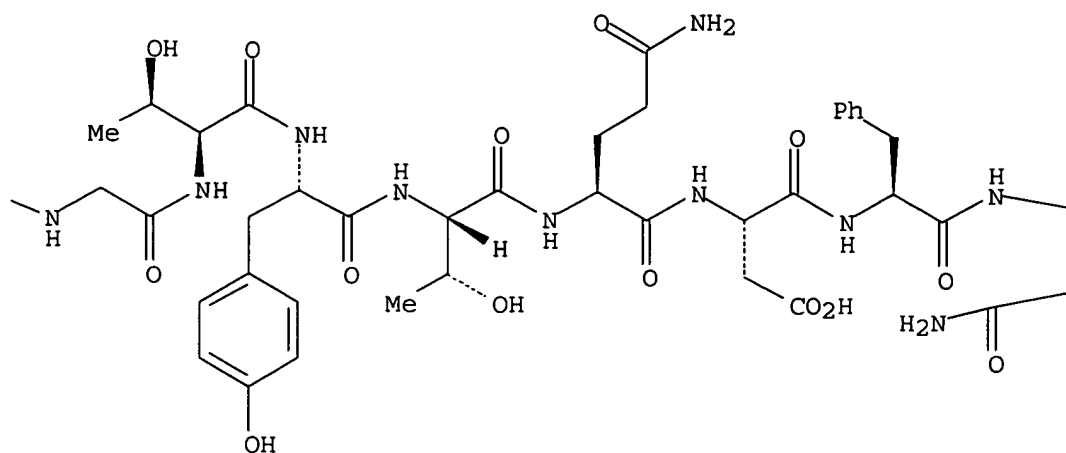
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STRUCTURE
DIAGRAM
IS NOT
AVAILABLE

2 X

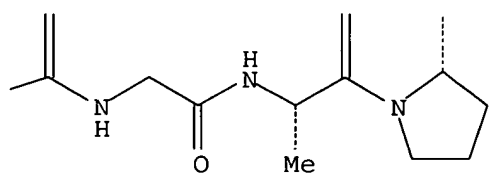
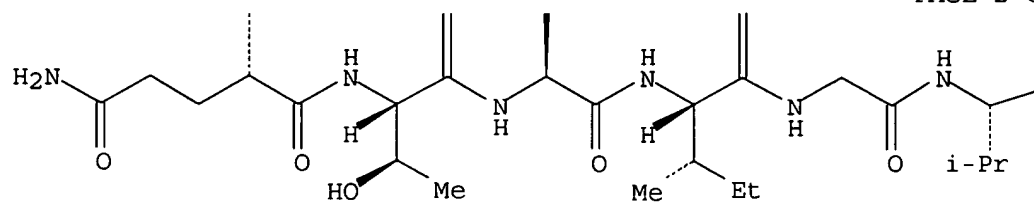
PAGE 1-A





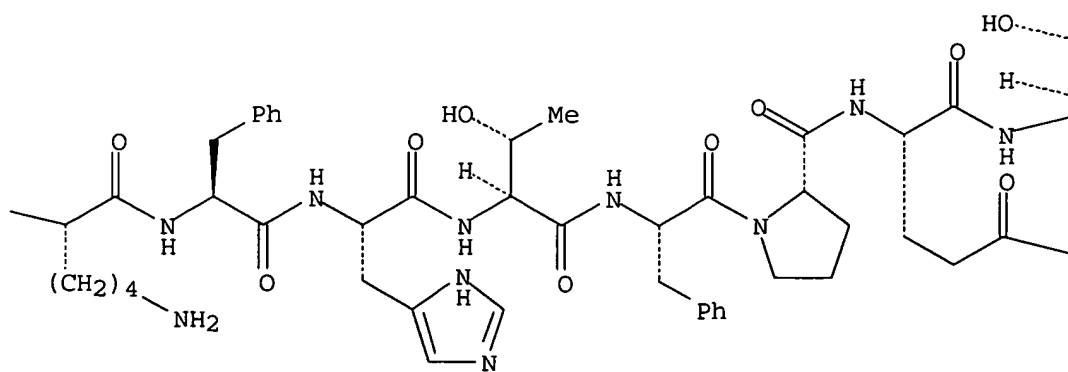
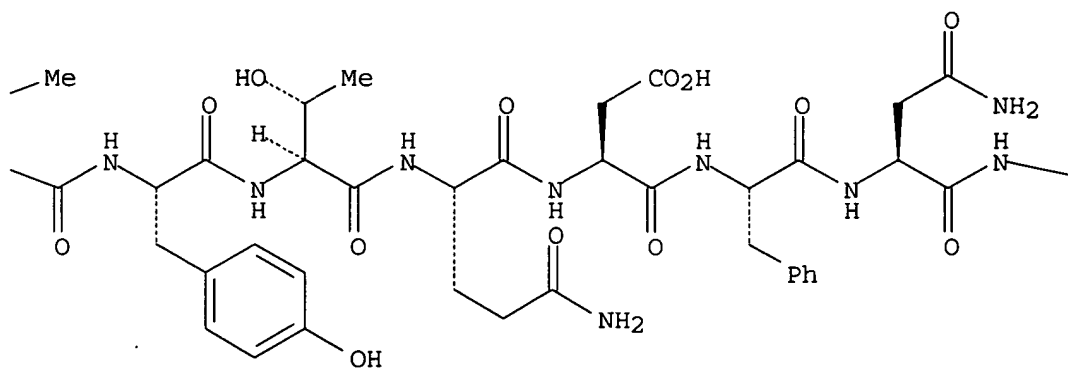
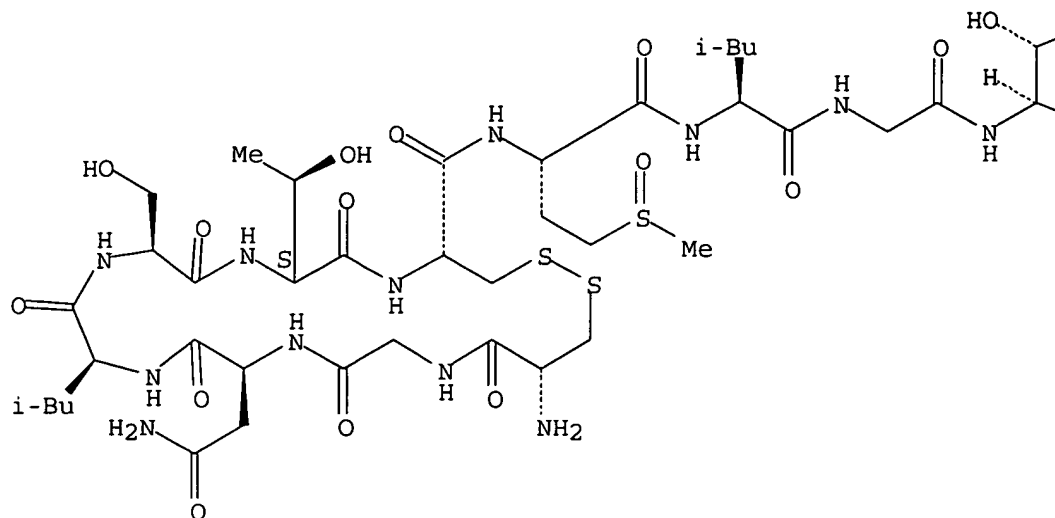
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

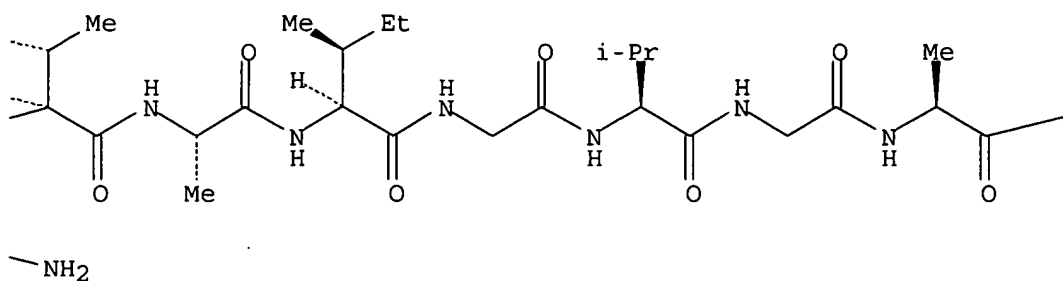


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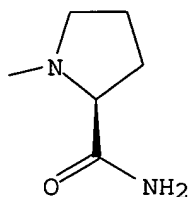
3
STEPS
→



PAGE 1-D



PAGE 1-E



AH

RX(1) RCT A 71989-31-6

STAGE(1)

RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(2)

RGT U 110-89-4 Piperidine
SOL 68-12-2 DMF

STAGE(3)

RCT B 35661-39-3
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(4)

RCT C 29022-11-5
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(5)

RCT D 68858-20-8
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(6)

CAS ONLINE PRINTOUT

RCT E 71989-23-6
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(7)

RCT F 73731-37-0
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(8)

RCT G 132327-80-1
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(9)

RGT U 110-89-4 Piperidine

STAGE(10)

RCT H 35661-40-6
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(11)

RGT U 110-89-4 Piperidine

STAGE(12)

RCT I 109425-51-6
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(13)

RCT J 105047-45-8
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(14)

RCT K 132388-59-1
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(15)

RCT L 71989-14-5
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(16)

RCT M 71989-38-3
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(17)

RCT N 35661-60-0

CAS ONLINE PRINTOUT

RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(18)

RCT O 71989-28-1
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(19)

RCT P 103213-32-7
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(20)

RCT Q 71989-33-8
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

PRO R 474527-92-9D
NTE solid-supported reaction, first stage is deprotection of Fmoc-
PAL-PEG-PS resin, std. side chains protecting groups
(tBu, trityl, Boc) assumed, piperidine used for all subsequent
deprotection after coupling

RX(3) RCT R 474527-92-9D, X 474527-93-0D
RGT Z 76-05-1 F3CCO2H, AA 108-95-2 PhOH, AB 100-68-5 PhSMe, AC
540-63-6 HSCH2CH2SH
PRO Y 27686-18-6
SOL 76-05-1 F3CCO2H
NTE solid-supported reaction, other products also detected

RX(2) RCT A 71989-31-6

STAGE(1)

RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(2)

RGT U 110-89-4 Piperidine
SOL 68-12-2 DMF

STAGE(3)

RCT B 35661-39-3
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(4)

RCT C 29022-11-5
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(5)

RCT D 68858-20-8
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,

CAS ONLINE PRINTOUT

T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(6)

RCT E 71989-23-6
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(7)

RCT F 73731-37-0
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(8)

RCT G 132327-80-1
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(9)

RCT H 35661-40-6
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(10)

RCT I 109425-51-6
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(11)

RCT J 105047-45-8
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(12)

RCT K 132388-59-1
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(13)

RCT L 71989-14-5
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(14)

RCT M 71989-38-3
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(15)

RCT N 35661-60-0
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i

CAS ONLINE PRINTOUT

SOL 68-12-2 DMF

STAGE(16)

RCT W 76265-70-8

RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,

T 693-13-0 i-PrN:C:NPr-i

SOL 68-12-2 DMF

STAGE(17)

RCT P 103213-32-7

RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,

T 693-13-0 i-PrN:C:NPr-i

SOL 68-12-2 DMF

STAGE(18)

RCT Q 71989-33-8

RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,

T 693-13-0 i-PrN:C:NPr-i

SOL 68-12-2 DMF

PRO X 474527-93-0D

NTE solid-supported reaction, first stage is deprotection of Fmoc-PAL-PEG-PS resin, std. side chains protecting groups (tBu,trityl,Boc) assumed, piperidine used for all subsequent deprotection after coupling

RX(2)

RCT A 71989-31-6

STAGE(1)

RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,

T 693-13-0 i-PrN:C:NPr-i

SOL 68-12-2 DMF

STAGE(2)

RGT U 110-89-4 Piperidine

SOL 68-12-2 DMF

STAGE(3)

RCT B 35661-39-3

RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,

T 693-13-0 i-PrN:C:NPr-i

SOL 68-12-2 DMF

STAGE(4)

RCT C 29022-11-5

RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,

T 693-13-0 i-PrN:C:NPr-i

SOL 68-12-2 DMF

STAGE(5)

RCT D 68858-20-8

RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,

T 693-13-0 i-PrN:C:NPr-i

SOL 68-12-2 DMF

STAGE(6)

RCT E 71989-23-6

RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,

T 693-13-0 i-PrN:C:NPr-i

SOL 68-12-2 DMF

CAS ONLINE PRINTOUT

STAGE(7)

RCT F 73731-37-0
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(8)

RCT G 132327-80-1
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(9)

RCT H 35661-40-6
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(10)

RCT I 109425-51-6
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(11)

RCT J 105047-45-8
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(12)

RCT K 132388-59-1
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(13)

RCT L 71989-14-5
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(14)

RCT M 71989-38-3
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(15)

RCT N 35661-60-0
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(16)

RCT W 76265-70-8
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(17)

CAS ONLINE PRINTOUT

RCT P 103213-32-7
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(18)

RCT Q 71989-33-8
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

PRO X 474527-93-0D

NTE solid-supported reaction, first stage is deprotection of Fmoc-PAL-PEG-PS resin, std. side chains protecting groups (tBu, trityl, Boc) assumed, piperidine used for all subsequent deprotection after coupling

RX(1) RCT A 71989-31-6

STAGE(1)

RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(2)

RGT U 110-89-4 Piperidine
SOL 68-12-2 DMF

STAGE(3)

RCT B 35661-39-3
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(4)

RCT C 29022-11-5
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(5)

RCT D 68858-20-8
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(6)

RCT E 71989-23-6
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(7)

RCT F 73731-37-0
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(8)

RCT G 132327-80-1
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,

CAS ONLINE PRINTOUT

T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(9)

RGT U 110-89-4 Piperidine

STAGE(10)

RCT H 35661-40-6
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(11)

RGT U 110-89-4 Piperidine

STAGE(12)

RCT I 109425-51-6
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(13)

RCT J 105047-45-8
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(14)

RCT K 132388-59-1
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(15)

RCT L 71989-14-5
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(16)

RCT M 71989-38-3
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(17)

RCT N 35661-60-0
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(18)

RCT O 71989-28-1
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i
SOL 68-12-2 DMF

STAGE(19)

RCT P 103213-32-7
RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i

CAS ONLINE PRINTOUT

SOL 68-12-2 DMF

STAGE(20)

RCT Q 71989-33-8

RGT S 39968-33-7 3H-1,2,3-Triazolo[4,5-b]pyridine, 3-hydroxy-,
T 693-13-0 i-PrN:C:NPr-i

SOL 68-12-2 DMF

PRO R 474527-92-9D

NTE solid-supported reaction, first stage is deprotection of Fmoc-PAL-PEG-PS resin, std. side chains protecting groups (tBu, trityl, Boc) assumed, piperidine used for all subsequent deprotection after coupling

RX(4) RCT R 474527-92-9D, X 474527-93-0D
RGT Z 76-05-1 F3CCO2H, AB 100-68-5 PhSMe, AC 540-63-6 HSCH2CH2SH, AE 100-66-3 PhOMe
PRO AD 73840-80-9
SOL 76-05-1 F3CCO2H
NTE solid-supported reaction, other products also detected

RX(6) RCT Y 27686-18-6, AD 73840-80-9
RGT AI 12072-77-4 Platinate(2-), dichlorotetrakis(cyano-κC)-, dipotassium, (OC-6-12)-
PRO AH 67881-33-8
NTE buffered soln.

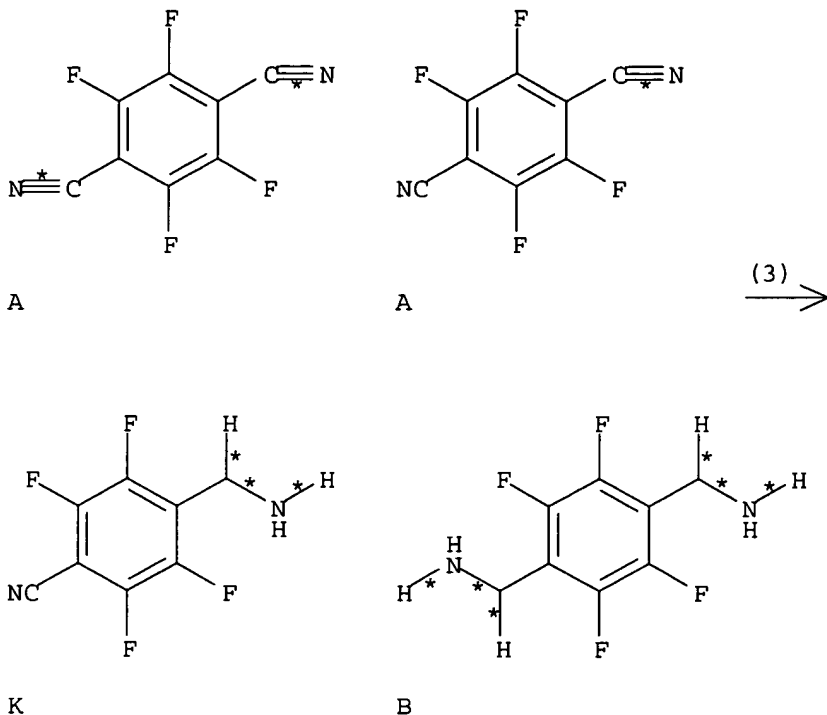
L3 ANSWER 3 OF 5 CASREACT COPYRIGHT 2006 ACS on STN
AN 136:85657 CASREACT
TI Production method for benzenedimethanol compound
IN Murakami, Masatoshi; Suyama, Yuseki; Morikawa, Kohei
PA Showa Denko K.K., Japan
SO PCT Int. Appl., 30 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002002504	A1	20020110	WO 2001-JP5759	20010703
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	JP 2002020332	A2	20020123	JP 2000-202786	20000704
	AU 2001067914	A5	20020114	AU 2001-67914	20010703
	EP 1299343	A1	20030409	EP 2001-945794	20010703
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
	RU 2240301	C2	20041120	RU 2003-102369	20010703
	US 2003171626	A1	20030911	US 2002-311801	20021220
	US 6909023	B2	20050621		
PRAI	JP 2000-202786		20000704		
	US 2000-221922P		20000731		
	WO 2001-JP5759		20010703		

CAS ONLINE PRINTOUT

RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

RX(3) OF 5 2 A ==> K + B...



RX(3) RCT A 1835-49-0
 RGT C 1333-74-0 H2
 PRO K 89992-51-8, B 89992-50-7
 CAT 7440-02-0 Ni
 SOL 67-56-1 MeOH

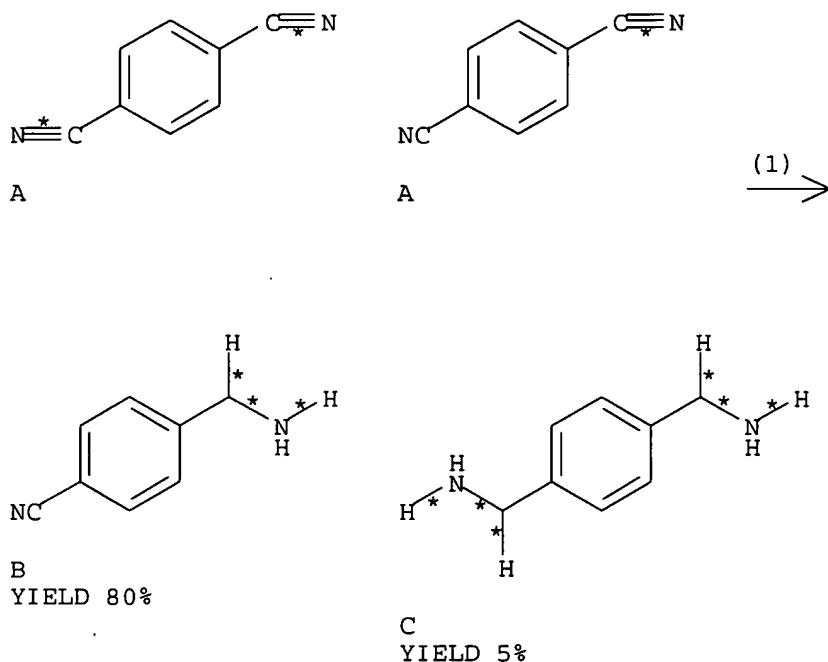
L3 ANSWER 4 OF 5 CASREACT COPYRIGHT 2006 ACS on STN
AN 129:161421 CASREACT
TI Process for the preparation of cyanoarylmethylamine
IN Miura, Motoo; Suyama, Yuseki; Kondo, Hideyuki; Morikawa, Kouhei
PA Showa Denko K.K., Japan
SO PCT Int. Appl., 30 pp.
 CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9833767	A1	19980806	WO 1998-JP464	19980204
W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW				
RW:	GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM,				

CAS ONLINE PRINTOUT

GA, GN, ML, MR, NE, SN, TD, TG
AU 9857799 A1 19980825 AU 1998-57799 19980204
EP 908447 A1 19990414 EP 1998-901507 19980204
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, FI
IL 126443 A1 20030917 IL 1998-126443 19980204
JP 3528970 B2 20040524 JP 1998-532729 19980204
US 6114277 A 20000905 US 1998-155450 19980930
NO 9804622 A 19981123 NO 1998-4622 19981002
NO 319399 B1 20050808
NO 2005003066 A 19981123 NO 2005-3066 20050622
PRAI WO 1997-JP270 19970204
WO 1998-JP464 19980204
RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

RX(1) OF 1 2 A ==> B + C



RX(1) RCT A 623-26-7
RGT D 1333-74-0 H2, E 1310-73-2 NaOH
PRO B 10406-25-4, C 539-48-0
CAT 7440-02-0 Ni
SOL 67-56-1 MeOH
NTE hydrogen pressure 10 kg/cm2; 100°

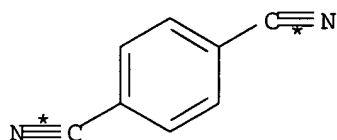
L3 ANSWER 5 OF 5 CASREACT COPYRIGHT 2006 ACS on STN
AN 129:161420 CASREACT
TI Process for the preparation of cyanoarylmethylamine
IN Miura, Motoo; Suyama, Yuseki; Kondo, Hideyuki; Morikawa, Kouhei
PA Showa Denko K.K., Japan
SO PCT Int. Appl., 21 pp.
CODEN: PIXXD2
DT Patent

CAS ONLINE PRINTOUT

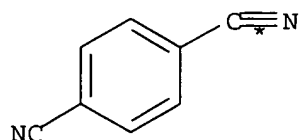
LA Japanese
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9833766	A1	19980806	WO 1997-JP270	19970204
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	RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	AU 9715586	A1	19980825	AU 1997-15586	19970204
	CA 2250770	AA	19980806	CA 1998-2250770	19980204
	EP 908447	A1	19990414	EP 1998-901507	19980204
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	CN 1216038	A	19990505	CN 1998-800091	19980204
	CN 1100035	B	20030129		
	CZ 290604	B6	20020814	CZ 1998-3522	19980204
	IL 126443	A1	20030917	IL 1998-126443	19980204
	JP 3528970	B2	20040524	JP 1998-532729	19980204
	US 6114277	A	20000905	US 1998-155450	19980930
	KR 2000044033	A	20000715	KR 1998-707871	19981001
	NO 9804622	A	19981123	NO 1998-4622	19981002
	NO 319399	B1	20050808		
	NO 2005003066	A	19981123	NO 2005-3066	20050622
PRAI	WO 1997-JP270		19970204		
	WO 1998-JP464		19980204		
RE.CNT 4	THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT				

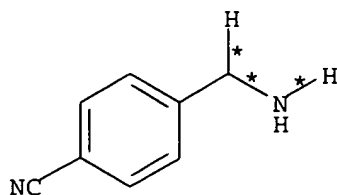
RX(1) OF 1 2 A ==> B + C



A

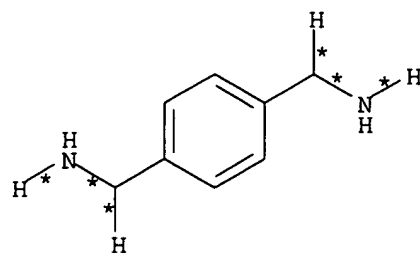


A



B

YIELD 80%



C

YIELD 5%

CAS ONLINE PRINTOUT

RX(1) RCT A 623-26-7
RGT D 1333-74-0 H2, E 1310-73-2 NaOH
PRO B 10406-25-4, C 539-48-0
CAT 7440-02-0 Ni
SOL 67-56-1 MeOH
NTE hydrogen pressure 10 kg/cm2; 100°C

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